

# INTERNATIONAL SEARCH REPORT

Intern: Application No  
PCT/EP2004/003897

**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 7 C08F110/02 C08F4/02

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 C08F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, CHEM ABS Data

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 028 149 A (NEISSL WOLFGANG ET AL) 22 February 2000 (2000-02-22) column 6 - column 10	1-5, 7, 9, 10, 12
X	WO 97/48742 A (GRACE W R & CO) 24 December 1997 (1997-12-24) page 5, line 12 examples 18-20; tables 1, 3	1, 2, 4, 6, 7, 9-12
X	EP 0 494 084 A (MITSUI PETROCHEMICAL IND) 8 July 1992 (1992-07-08) example 1	7-12
X	WO 91/07443 A (NESTE OY) 30 May 1991 (1991-05-30) example 1	7, 9-12
		-/-

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

\* Special categories of cited documents :

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the International filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the International filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*&\* document member of the same patent family

Date of the actual completion of the international search

3 September 2004

Date of mailing of the International search report

10/09/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax (+31-70) 340-3016

Authorized officer

Parry, J

## INTERNATIONAL SEARCH REPORT

Intern Application No  
PCT/EP2004/003897

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 91/16361 A (NESTE OY) 31 October 1991 (1991-10-31) page 12 - page 25 -----	7,9-12
X	US 5 145 821 A (BUEHLER CHARLES K ET AL) 8 September 1992 (1992-09-08) examples 1,2 -----	7,9,10, 12
A	EP 0 027 733 A (ARCO POLYMERS INC) 29 April 1981 (1981-04-29) cited in the application example 1 -----	1-12
A	US 4 530 912 A (PULLUKAT THOMAS J ET AL) 23 July 1985 (1985-07-23) examples 1,4 -----	1-12
A	WO 99/46306 A (PQ CORP) 16 September 1999 (1999-09-16) example 1 -----	1-12
A	LUO H-K ET AL: "Studies on the Formation of New, Highly Active Silica-Supported Ziegler-Natta Catalyst for Ethylene Polymerization" JOURNAL OF CATALYSIS, ACADEMIC PRESS, DULUTH, MN, US, vol. 210, no. 2, 10 September 2002 (2002-09-10), pages 328-339, XP004468932 ISSN: 0021-9517 page 329 - page 331 -----	1-12
P,X	WO 03/054028 A (BASELL POLYOLEFINE GMBH ; SCHNEIDER MARTIN-JULIUS (DE); KARER RAINER ( ) 3 July 2003 (2003-07-03) claims 3,7-14; examples 2,3,6,7; tables 1-3 -----	7-12

## **INTERNATIONAL SEARCH REPORT**

#### **Information on patent family members**

**Internal Application No.**

PCT/EP2004/003897

**INTERNATIONAL SEARCH REPORT**

Information on patent family members

Interna — Application No

PCT/EP2004/003897

Patent document cited in search report	Publication date	Patent family member(s)		Publication date
WO 9107443	A	WO JP JP US	9107443 A1 2897149 B2 5504154 T 5413979 A	30-05-1991 31-05-1999 01-07-1993 09-05-1995
WO 9116361	A 31-10-1991	FI AT DE DE EP ES WO JP JP US	901895 A 143674 T 69122502 D1 69122502 T2 0525003 A1 2094810 T3 9116361 A1 2681310 B2 5506679 T 5677256 A	13-10-1991 15-10-1996 07-11-1996 06-02-1997 03-02-1993 01-02-1997 31-10-1991 26-11-1997 30-09-1993 14-10-1997
US 5145821	A 08-09-1992	US AU AU BR CA CN EP FI JP MX NO WO US US ZA AU AU BR CA CN EP JP NO RU WO US US ZA	5034365 A 659660 B2 2258792 A 9206177 A 2111192 A1 1069739 A 0592570 A1 935634 A 6508653 T 9203079 A1 934679 A 9300368 A1 5232998 A 5275991 A 9204534 A 635645 B2 7901391 A 9105747 A 2051667 A1 1058024 A ,B 0482177 A1 4506985 T 914006 A 2055080 C1 9117191 A1 5610246 A 5221650 A 9103447 A	23-07-1991 25-05-1995 25-01-1993 13-12-1994 07-01-1993 10-03-1993 20-04-1994 11-02-1994 29-09-1994 31-08-1994 04-02-1994 07-01-1993 03-08-1993 04-01-1994 31-03-1993 25-03-1993 27-11-1991 18-08-1992 10-11-1991 22-01-1992 29-04-1992 03-12-1992 06-01-1992 27-02-1996 14-11-1991 11-03-1997 22-06-1993 25-03-1992
EP 0027733	A 29-04-1981	CA EP JP	1130269 A1 0027733 A1 56062806 A	24-08-1982 29-04-1981 29-05-1981
US 4530912	A 23-07-1985	CA DE FR GB JP JP JP	1172622 A1 3213633 A1 2507187 A1 2099834 A ,B 1307102 C 57202307 A 60033121 B	14-08-1984 20-01-1983 10-12-1982 15-12-1982 13-03-1986 11-12-1982 01-08-1985
WO 9946306	A 16-09-1999	US	6177375 B1	23-01-2001

**INTERNATIONAL SEARCH REPORT**

Information on patent family members

Inter - Application No

PCT/EP2004/003897

Patent document cited in search report	Publication date	Patent family member(s)		Publication date
WO 9946306	A	AT	256151 T	15-12-2003
		AU	2900899 A	27-09-1999
		CA	2322756 A1	16-09-1999
		CN	1136238 B	28-01-2004
		DE	69913503 D1	22-01-2004
		EP	1062253 A1	27-12-2000
		ES	2212537 T3	16-07-2004
		ID	25917 A	09-11-2000
		JP	2002506094 T	26-02-2002
		NO	20004501 A	31-10-2000
		WO	9946306 A1	16-09-1999
WO 03054028	A	03-07-2003	DE	10163075 A1
			WO	03054028 A1